

Infrared Temperature Sensor (TDR 350)

User's Guide

Item # 6435TS

Installation

1. If the shaft is extended, remove the shaft bolt and push the meter into the contracted position. Re-attach the bolt. This will reduce the tension in the soil moisture (SM) sensor cable.
2. Remove the screw and nylon spacer located just beneath the handles. Separate the nylon spacer from the screw.
3. Remove the 4 screws that attach the display to the shaft.
4. Lay the face of the meter on a flat surface (fig. 1). Do not remove the soil moisture sensor cable.
5. Push the black plug out of the hole at the top of the shaft (fig. 1).
6. Push the IR temperature (IRT) sensor jack through the flange at the top of the shaft (Fig. 2). Plug the jack into the port next to the SM sensor.
7. Re-attach the display with the 4 screws.
8. Drape the sensor over the handle such that the cable sits below the screw hole (Fig. 3).
9. Push the screw through the bracket such that the head of the screw is on the side opposite the clip. Place the nylon spacer over the threads (Fig. 4).
10. Attach the bracket to the shaft. Ensure the IRT sensor cable stays between the screw and the flange. The semi-circular cut-out fits over the handle.
11. Snap the IRT sensor into the bracket clip. The front end of the sensor should be flush with the edge of the bracket (Fig. 5).
12. Push the flat end of the bracket so it is flush with the flange.

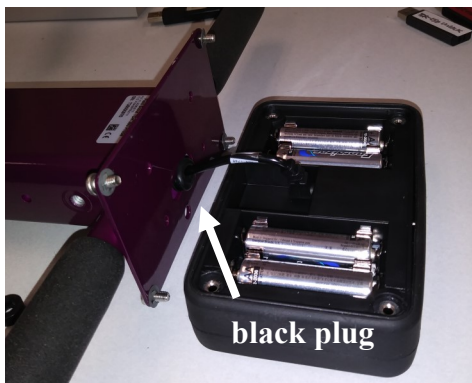


Fig. 1: Display separated from shaft



Fig. 2: IRT sensor inserted through flange



Fig. 3: IRT sensor prior to bracket attachment

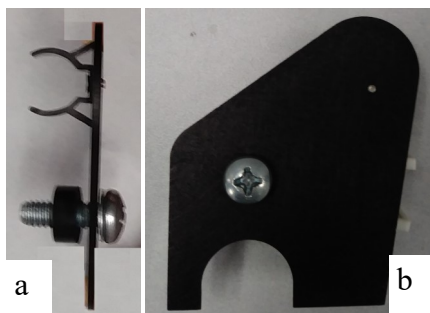


Fig. 4: Screw/IRT sensor bracket



Fig. 5: IRT sensor attached to bracket

Operation

1. In the Settings Menu, set the Temp Source" option to "IR Sensor"

Temp Source > IR Sensor

2. When taking measurements, be sure the flat end of the bracket is flush with the flange. This ensures the IRT sensor is pointed in the proper direction (Fig. 6).

The temperature reading on the display is automatically refreshes. When the READ button is pressed, the temperature value at the time is captured and stored in the data record.

Note: The surface temperature sensor at the base of the probe is a point measurement and requires equilibration with the turf surface. Therefore, the reading from that sensor will not necessarily match the reading from the IRT sensor.

Specifications

Resolution:	0.1 °F (0.1 °C)
Accuracy:	± 0.9 °F from 32 to 122 °F (± 0.5 °C from 0 to 50 °C)
Range:	-40 to 212 °F (-40 to 100 °C)
Cable Length:	6.8" (17 cm)
Sensor Length:	1.2" (3 cm)
Height to Diameter Ratio:	6:1

The field of view of the IRT sensor is described by a cone with a total angle of 10°. The sensed area is a circle with a diameter of 6" (15cm) that sits 3" (8cm) in front of the probe block (Fig. 7).

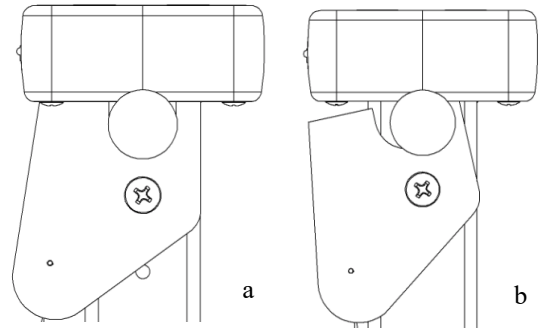


Fig. 6: a.) Bracket flush with flange, b.) Separated from flange.

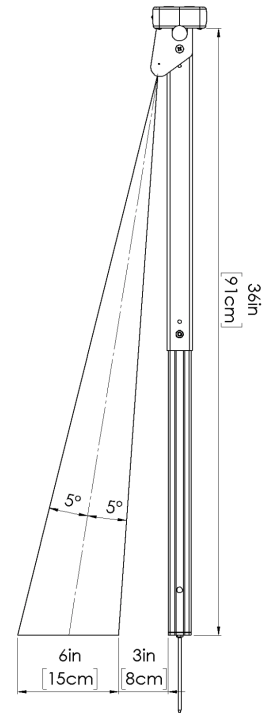


Fig. 7: IRT sensor field of view

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